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Dickinson Wright PLLC 38525 Woodward Avenue Suite 2000 Bloomfield Hills, MI 48304			EXAMINER	
			WOLFE, DEBRA M	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/562,349  
Filing Date: May 04, 2006  
Appellant(s): BROCHHEUSER ET AL.

\_\_\_\_\_  
Thomas M. Donohue  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed June 9, 2008 appealing from the Office action mailed October 24, 2007.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Ilhara et al (US PGPub 2002/0092168). Applicant's admitted prior art discloses a process of producing an inner profile in a tube or hollow profile comprising the steps of providing a tube or hollow profile having an internal through opening and a constant cross section over the length thereof, inserting the tube or hollow profile into a supporting sleeve and pressing a forming die with an outer profile into the tube or hollow profile from the second end for producing the inner profile [See pg.1 paragraph 2 of Applicant's disclosure]. Applicant's admitted prior art discloses the invention substantially as claimed except for wherein a pressure loaded annular die is placed on a second tube end and is allowed to return under a pressure load in the opposite direction of the pressing in the forming die wherein the pressure load on the annular die is reduced with an increasing return path. However, Ilhara et al teaches of placing an annular die (43) on a second end of a hollow profile (Wba) and allowing the annular die (43) to return under a pressure load (backward extrusion of the material) in the opposite direction to the pressing direction of a forming die (42). It is noted that Ilhara et al states in lines 14-16 of paragraph [0059] that the second end (Wba) is not constrained during the

forming operation, therefore the annular die (43) must return in the opposite direction to the pressing movement for the backward extrusion process to be successful. Furthermore, the pressure load on the annular die (43) is going to be reduced with an increasing return path since as the material is extruded by the forming die (42) it will push up against the annular die (43) and the annular die will have to give (i.e. reduce pressure) and move upwards in order to allow a backward extrusion process to occur. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the prior art process with a pressure loaded annular die that returns under a pressure load in order to evenly control the backward extrusion of the tube or hollow profile.

In reference to claim 12, the second tube end is only radially supported by the sleeve.

In reference to claim 13, the supporting sleeve is axially longer than the tube or hollow profile.

In reference to claim 14, Ilhara et al teaches the annular die retracts during the step of pressing in response to a backward flow of material.

In reference to claim 15, the combination of the admitted prior art and Ilhara discloses the annular die and pressing die are coaxially arranged.

2. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted prior art in view of Ilhara et al as applied to claim 1 above, and further in view of Budrean et al (US Patent # 4,785,648). The admitted prior art in view of Ilhara et al discloses the invention substantially as claimed except for wherein the inner profile is a splined shaft or ball track profile however, Budrean et al teaches the use of pressing dies having a splined outer profiles and ball track profiles for the purpose of forming a splined shaft profile or a ball track profile in a hollow

profile or tube. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the outer profile of the pressing die in Ilhara et al to have a splined outer profile as taught by Budrean et al in order to obtain a splined inner shaft profile. It is further noted that Applicant fails to disclose any criticality to the splined shaft profile (see page 6 lines 3-4 of the sixth paragraph).

#### **(10) Response to Argument**

##### **Argument Section for 35 U.S.C. § 103(a) Admitted Prior Art in view of Ilhara**

The Appellant contends on page 5 lines 23-28 that “Ilhara clearly fails to show an annular die being pressure-loaded against a tube end, wherein the annular die is returned under a pressure-load in the opposite direction of the forming die (in other words: the annular die exerts a pressure-load onto the tube end while being moved away from the tube), and wherein said pressure-load on the annular die is reduced with an increasing return path.”

However, the Examiner respectfully disagrees. The embodiment of figure 4b of Ilhara was used to show a teaching of placing a pressure loaded annular die (43) on a second end and allowing the annular die (43) to return under a pressure load in the opposite direction of the pressing by the forming die (42) where the pressure load on the annular die (43) is reduced with an increasing return path. Ilhara states in paragraph [0051] lines 16-25 that the annular free end face of the tubular body (43a) of the annular die (43) is “defined and utilized so as to be brought into engagement with an annular upper end face of the peripheral wall of the cup portion (4b) that has been extended by the rearward container pushing, the tapered peripheral wall face (Wba) will not be constrained.” In addition, Applicant defines the terms pressure-loaded to be “able to give in the opposite direction to the first die (14) when the die (14) is moved forward downwardly, i.e. in

the direction of deformation" [See page 8 lines 1-4 of Applicants specification filed December 27, 2005]. Since the annular die (43) of Ilhara is not constrained it is able to give in the opposite direction of the first die (42) as the forming die is moved forwardly in the direction of deformation. Therefore, the annular die of Ilhara is pressure-loaded as defined by Applicant's specification and meets the requirement for claim 1. With regards to the limitation of the pressure load on the annular die being reduced with an increasing return path. Ilhara clearly shows in figure 4b the work piece prior to operation of the press (dotted line going across forming die 42) and the work piece during operation of the press. As the forming die (42) contacts the work piece and begins to form a hollow profile material is extruded backwards causing material to build up against the annular die, as the pressure of the material increases against the annular die (43) the pressure load of the annular die (43) will reduce to allow the material to extrude backwards. Therefore, the annular die (43) of Ilhara is going to be reduced with an increasing return path since as the material is extruded by the forming die (42) it will push up against the annular die (43) and the annular die will have to give (i.e. reduce pressure) and move upwards in order to allow a backward extrusion process to occur.

**Argument Section for 35 U.S.C. § 103(a) Admitted Prior Art in view of Ilhara in further view of Budrean**

The Appellant contends on page 7 lines 9-12 that **"The addition of the Budrean reference fails to repair the insufficiency of the prior rejection. The Budrean reference clearly fails to disclose the claimed features above relating to the pressure loaded annular die."** It is noted that the Budrean reference was combined with the rejection of the admitted prior art in view of Ilhara et al to teach of using pressing dies having splined outer profiles and ball track profiles in

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order to form a splined shaft profile or a ball track profile in a hollow profile or tube. With regards to the argument that the admitted prior art in view of Ihara fails to teach the pressure loaded annular die, please refer to the argument section for 35 U.S.C. § 103(a) Admitted Prior Art in view of Ihara cited above.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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